

SEQUENCE LISTING

<110> DAICEL CHEMICAL INDUSTRIES, LTD.

<120> MUTANTS OF MYCOBACTERIUM VACCAE-DERIVED FORMATE DEHYDROGENASE
AND USES THEREOF

<130> D1-A0011Y1

<140>

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<150> JP 2001-254631

<151> 2001-8-24

<150> JP 2000-363894

<151> 2000-11-29

<160> 27

<170> PatentIn Ver. 2.1

<210> 1

<211> 1206

<212> DNA

<213> Mycobacterium vaccae

<400> 1

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aaggccatcg acttcacgcc cgggcagttg ctgggtccg tctccggcga gctcggcctg 180
cgaccatatc tcgagtccaa cggccacacc ctgggtcgtga cctccgacaa ggacggcccc 240
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 gtctaa 1206

<210> 2

<211> 401

<212> PRT

<213> *Mycobacterium vaccae*

<400> 2

Met Ala Lys Val Leu Cys Val Leu Tyr Asp Asp Pro Val Asp Gly Tyr

1

5

10

15

Pro Lys Thr Tyr Ala Arg Asp Asp Leu Pro Lys Ile Asp His Tyr Pro

20

25

30

Gly Gly Gln Ile Leu Pro Thr Pro Lys Ala Ile Asp Phe Thr Pro Gly

35

40

45

Gln Leu Leu Gly Ser Val Ser Gly Glu Leu Gly Leu Arg Pro Tyr Leu
 50 55 60

Glu Ser Asn Gly His Thr Leu Val Val Thr Ser Asp Lys Asp Gly Pro
 65 70 75 80

Asp Ser Val Phe Glu Arg Glu Leu Val Asp Ala Asp Val Val Ile Ser
 85 90 95

Gln Pro Phe Trp Pro Ala Tyr Leu Thr Pro Glu Arg Ile Ala Lys Ala
 100 105 110

Lys Asn Leu Lys Leu Ala Leu Thr Ala Gly Ile Gly Ser Asp His Val
 115 120 125

Asp Leu Gln Ser Ala Ile Asp Arg Asn Val Thr Val Ala Glu Val Thr
 130 135 140

Tyr Cys Asn Ser Ile Ser Val Ala Glu His Val Val Met Met Ile Leu
 145 150 155 160

Ser Leu Val Arg Asn Tyr Leu Pro Ser His Glu Trp Ala Arg Lys Gly
 165 170 175

Gly Trp Asn Ile Ala Asp Cys Val Ser His Ala Tyr Asp Leu Glu Ala
 180 185 190

Met His Val Gly Thr Val Ala Ala Gly Arg Ile Gly Leu Ala Val Leu
 195 200 205

Arg Arg Leu Ala Pro Phe Asp Val His Leu His Tyr Thr Asp Arg His
 210 215 220

Arg Leu Pro Glu Ser Val Glu Lys Glu Leu Asn Leu Thr Trp His Ala
 225 230 235 240

Thr Arg Glu Asp Met Tyr Pro Val Cys Asp Val Val Thr Leu Asn Cys
 245 250 255

Pro Leu His Pro Glu Thr Glu His Met Ile Asn Asp Glu Thr Leu Lys
 260 265 270

Leu Phe Lys Arg Gly Ala Tyr Ile Val Asn Thr Ala Arg Gly Lys Leu
 275 280 285

Cys Asp Arg Asp Ala Val Ala Arg Ala Leu Glu Ser Gly Arg Leu Ala
 290 295 300

Gly Tyr Ala Gly Asp Val Trp Phe Pro Gln Pro Ala Pro Lys Asp His
 305 310 315 320

Pro Trp Arg Thr Met Pro Tyr Asn Gly Met Thr Pro His Ile Ser Gly
 325 330 335

Thr Thr Leu Thr Ala Gln Ala Arg Tyr Ala Ala Gly Thr Arg Glu Ile
 340 345 350

Leu Glu Cys Phe Phe Glu Gly Arg Pro Ile Arg Asp Glu Tyr Leu Ile
 355 360 365

Val Gln Gly Gly Ala Leu Ala Gly Thr Gly Ala His Ser Tyr Ser Lys
 370 375 380

Gly Asn Ala Thr Gly Gly Ser Glu Glu Ala Ala Lys Phe Lys Lys Ala
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Val

<210> 3

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:an artificially
synthesized primer sequence

<400> 3

ctttctagag gaattcaacc atggcaaaag ttctgtgtgt tc

42

<210> 4

<211> 34

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:an artificially
synthesized primer sequence

<400> 4

cagtctagat tagaccgctt ttttgaattt ggcg

34

<210> 5

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:an artificially
synthesized primer sequence

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taatctagag gaattcaata atggatccaa caatgacgtt tc

42

<210> 6

<211> 35

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:an artificially
synthesized primer sequence

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tagaagctta agctattaaa cgcaagtgtgta cccac

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<210> 7

<211> 42

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:an artificially
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ctttctagag gaattcaacc atggcaaaag ttctgtctgt tc

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<210> 8

<211> 49

<212> DNA

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<223> Description of Artificial Sequence:an artificially
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gtatccggtt tgcgacgtcg tgacgtgaa ctccccgtg caccocgaa

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<210> 9

<211> 49

<212> DNA

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ttcgggggtgc agcggggagt tcagcgtcac gacgtcgcaa accggatac

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<210> 10

<211> 33

<212> DNA

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<223> Description of Artificial Sequence:an artificially
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cggaagtcac ctactcaaac tcgatcagcg tcg

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<210> 11

<211> 33

<212> DNA

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33

<210> 12

<211> 33

<212> DNA

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gacatgtatc cggtttctga cgctgtgacg ctg

33

<210> 13

<211> 33

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:an artificially
synthesized primer sequence

<400> 13

cagcgtcacg acgtcagaaa ccggatacat gtc

33

<210> 14

<211> 35

<212> DNA

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<223> Description of Artificial Sequence:an artificially
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<400> 14

cgagatcctg gagtcattct tcgaaggccg tccga

35

<210> 15

<211> 35

<212> DNA

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<223> Description of Artificial Sequence:an artificially
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<400> 15

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<210> 16

<211> 30

<212> DNA

<213> Artificial Sequence

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<400> 16

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<210> 17

<211> 30

<212> DNA

<213> Artificial Sequence

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<400> 17

atcgtaaaga acagctaaaa cttttgcat 30

<210> 18

<211> 21

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ggcaaatatt ctgaaatgag c

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<210> 19

<211> 20

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<210> 20

<211> 30

<212> DNA

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<210> 21

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<212> DNA

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<210> 22

<211> 27

<212> DNA

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<400> 22

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27

<210> 23

<211> 27

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:an artificially
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<400> 23

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27

<210> 24

<211> 27

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:an artificially
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<400> 24

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27

<210> 25

<211> 27

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:an artificially

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27

<210> 26

<211> 27

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:an artificially
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<400> 26

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27

<210> 27

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:an artificially
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27